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Heald, Harriet Ventress.

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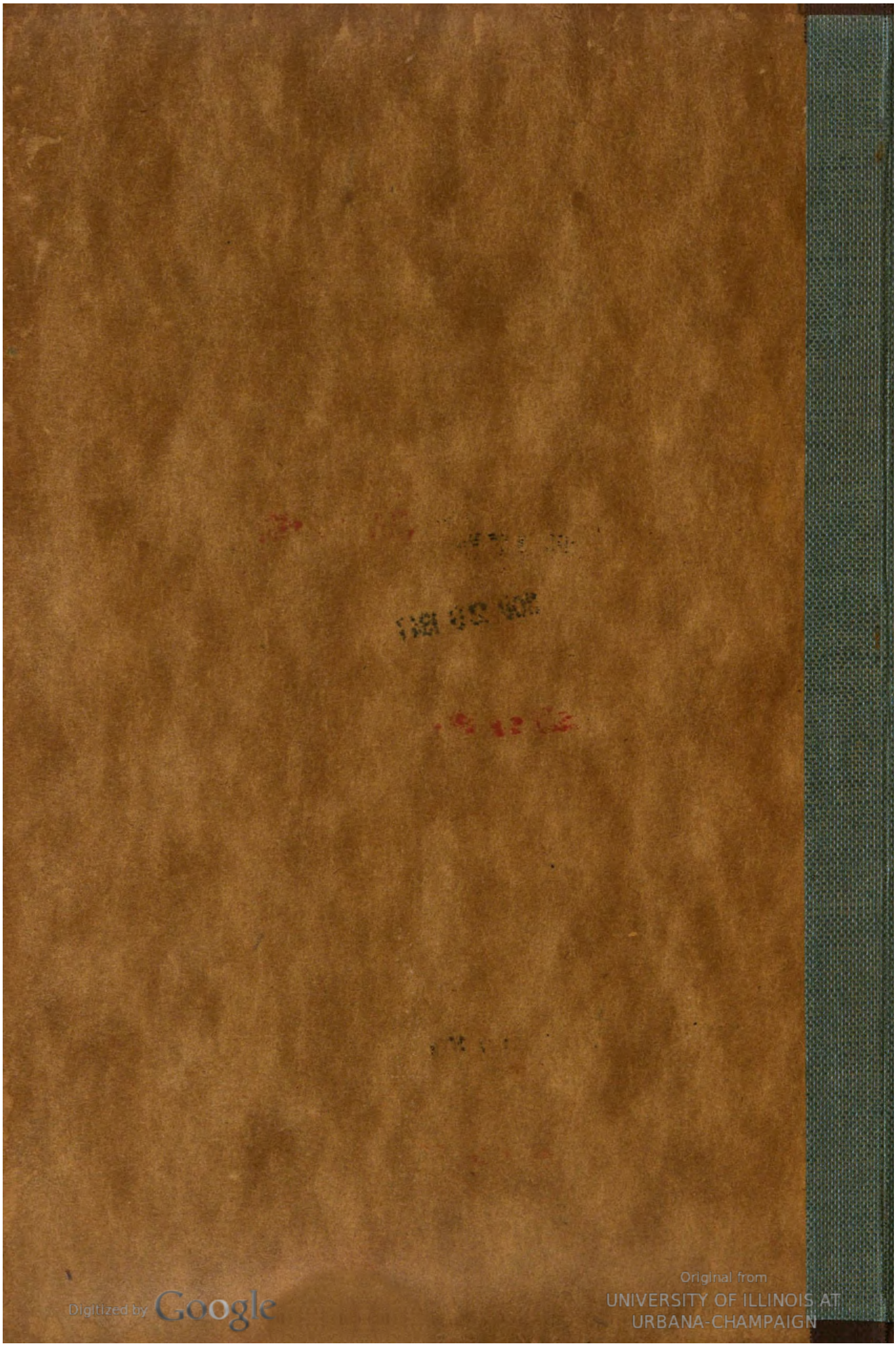
MONEY OF THE UNITED STATES

by HARRIET VENTRESS HEALD



Money of the United States

An Historical and Descriptive Account of Money and Its Substitutes from Early Colonial Days to the Present Time

By
Harriet Ventress Heald

Booklet 208

THE
WASHINGTON SERVICE BUREAU
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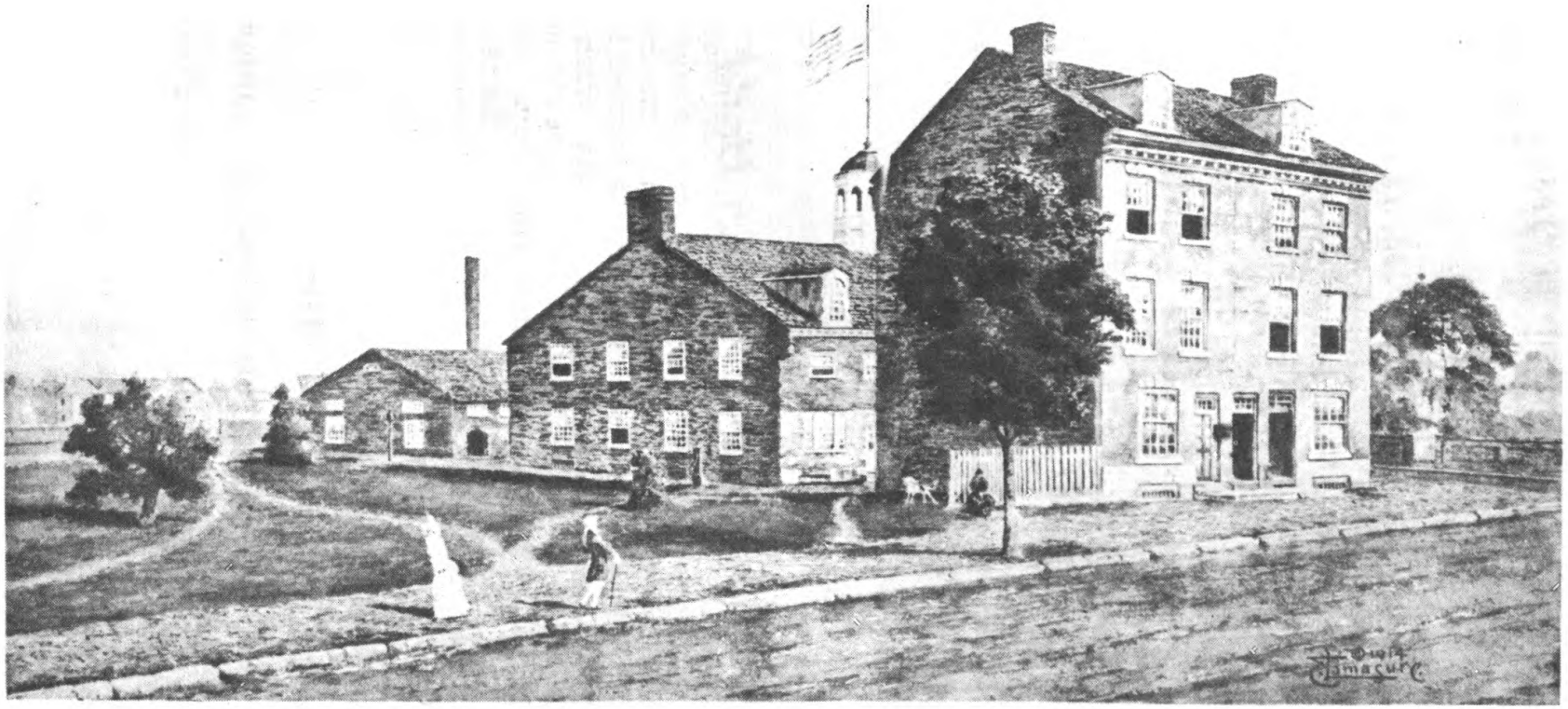

YE OLD MINT

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History of Money

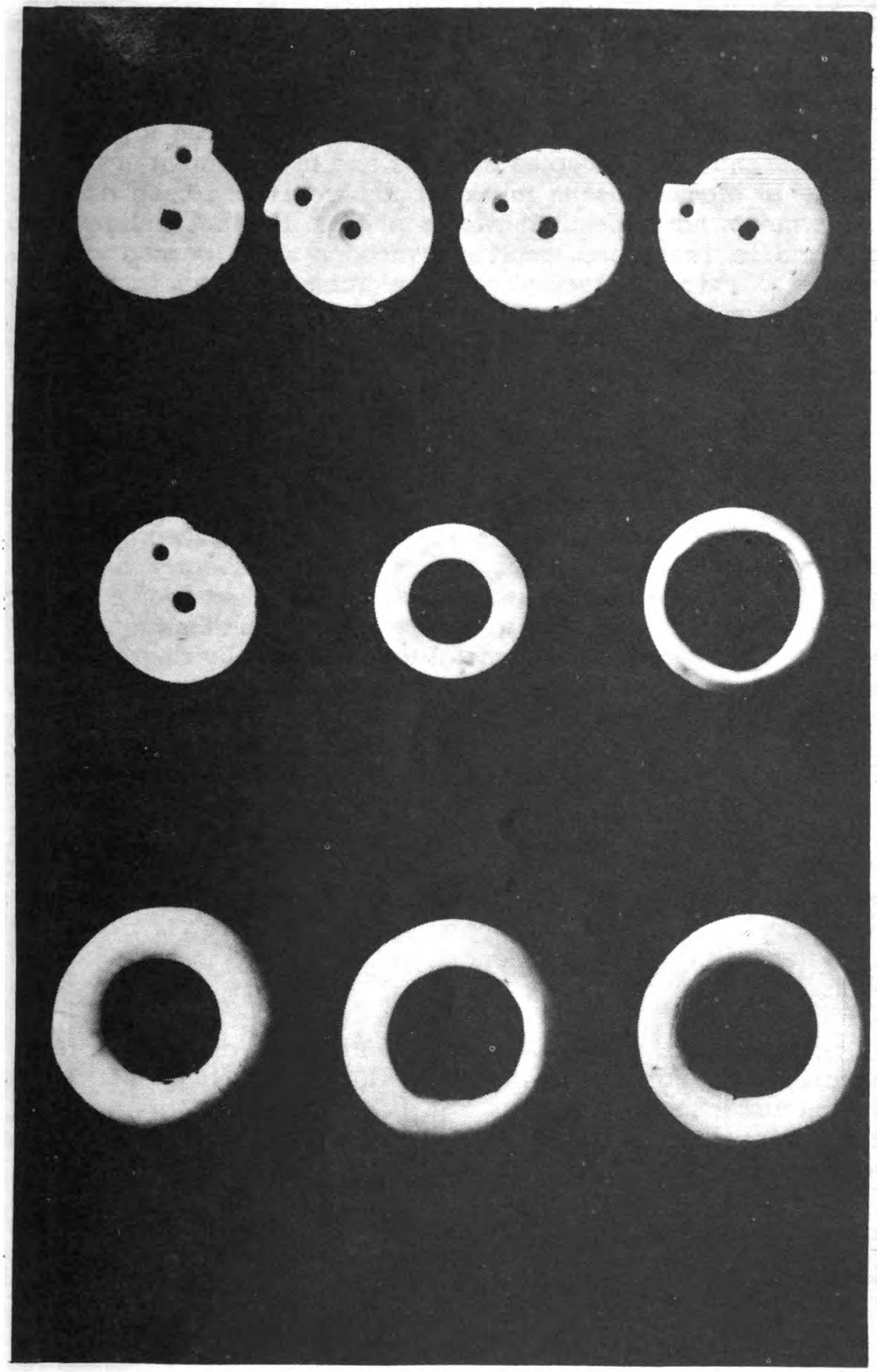
SINCE PREHISTORIC TIMES mankind has been occupied with the problem of money. The need for tokens of specific values and convenient size arose coincident with the beginning of commerce between the tribes. Banks and money, as we know them, did not exist, yet there was definite need for some medium of exchange besides the mere barter of commodities.

Many odd and curious commodities have been used for money. At first, any article which had wide use and acceptability in the community became the unit of currency among them. Some savage tribes used a much prized ornament, such as beads, furs, or rare shells; others chose an important necessity such as tea, tobacco, rice, or grain. Nine hundred years before the birth of Christ, Homer recorded that oxen were used to measure value. The warrior could buy a suit of golden armor for one hundred oxen. In ancient Crete, men estimated their wealth in terms of herds of cattle and flocks of sheep. Leather money circulated among the Romans and Carthaginians and there are records that it was used in Russia as late as 1725, during the reign of Peter the Great.

At one time, in China a kind of knife with a circular handle greatly valued by the people, was a medium of exchange. In the handle was a hole and the knives could be strung together; a convenient way to carry them. They were made in different kinds of metal (or jade) which had varying values. Gradually for convenience and to conserve metal, the blade was discarded and all that now remains of this unusual form of money is the Chinese coin with a hole in the center which is still carried on strings. On the island of Yap, the natives still use an interesting form of money reminiscent of earlier days. These are large discs of stone; some are five or six feet in diameter. A laborer returning home with a boatload of the huge discs is still regarded as the possessor of the full amount of the cash he earned, even when his boat overturns and the cumbrous tokens are deposited at the bottom of the sea.

When the first settlers landed in America they found the Indians using wampum as money. True wampum consisted of beads made of a certain kind of shell found along some sections of the Atlantic coast. The settlers adopted the Indian money to supplement their meager supply of coins, and it was generally accepted throughout the Colonies. Taxes could be paid in wampum and, in many communities, the salaries of parsons and school teachers. However, after a while some enterprising colonists made counterfeit wampum with machine-made beads and white men thereafter discarded that kind of money.

STONE DISK MONEY
(Island of Yap)



SHELL MONEY
(*Africa and Oceania*)

At one time or another, almost every native commodity became a unit of exchange in colonial America. In the South, tobacco was extensively employed and in Virginia it was a medium of exchange for more than one hundred years. In New England grain, dried fish, and furs were receivable for trading purposes and were accepted as taxes and in settlement of private debts. In Massachusetts musket balls were once used as cash in payments not exceeding twelve pence. South Carolina used rice and in Tennessee, deer and raccoon skins passed as currency. Woodpecker scalps were picturesque additions to the scant currency of the struggling colonists in some sections.

Mankind learned by experience that money must have certain essential qualities. It must be generally acceptable, and therefore must be sufficiently rare to create desire. It must be durable, easy to carry, and readily recognizable. Corn and tobacco were likely to fluctuate in value and were perishable. Skins and hides were cumbersome and therefore impractical. Finally, by general consent metal coinage was accepted as the most convenient medium of exchange. In the early historical accounts of money, iron, lead, and tin are mentioned. Nickel was tried and Russia once experimented with platinum. Copper has always been a favorite metal for coinage. By degrees, gold and silver became the chief coinage metals of the civilized world, and copper and nickel were widely used for subsidiary currency.

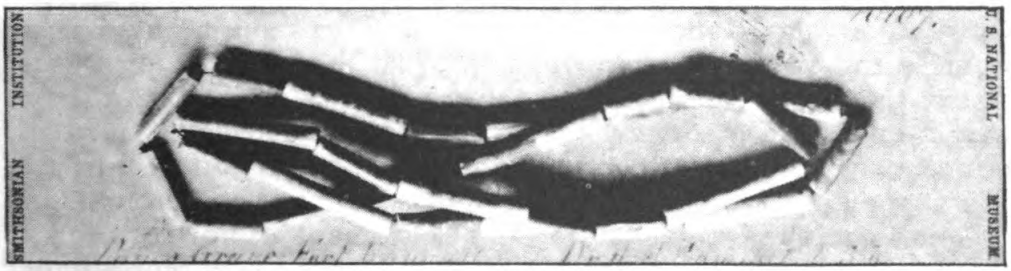
Gold and silver possess more nearly than any other metals, the requisite of satisfactory basic currency. They are durable, and on account of their high value, can be divided into portable coins of large denominations; they are widely acceptable and of sufficient quantity to meet the demands of commerce, but not plentiful enough to lose their desirability. Both are easily recognized. Gold, the more precious of the two, is generally used for coins of larger denominations; silver is restricted to coins of lesser value and base metal coins have the least value of all.

Both gold and silver are alloyed with small amounts of other metals in coinage to increase their durability. In recent years the circulation of gold coins has been prohibited or restricted throughout the civilized world, although the units of currency are still based on the metal.

The earliest historical records bear evidence of the use of metals as money. As early as 2500 B.C. metals circulated in Egypt, and cubes of gold were used in China in 2100 B.C. The Old Testament speaks of merchants using gold and silver bullion. In Babylonia, the temples were also the banks, accepting deposits and lending money at interest. The first metal coins recorded in history were made by the Lydians of Asia Minor, about 700 B.C. They were composed of electrum, an alloy of gold and silver, and were crude bean-shaped pieces, stamped with rough impressions. Croesus, King of Lydia, became a synonym for

great wealth. These Lydian coins were imitated by the Greeks, who improved the art of coinage and produced the most beautiful of all of the ancient money. Rome learned to make metallic coins, first from copper and later from silver and gold. Gradually, coins were adopted as the circulating medium in the commercial countries of the world.

WAMPUM MONEY
(*Venus mercenario*)



Despite the importance of money as a medium of exchange, the actual amount in use constitutes only a small part of the payments in world commercial transactions. In the United States money in circulation represents only from one-eighth to one-tenth of the value of annual business transactions and the remainder is represented by transfer of credits on the books of business establishments and by checks, notes and other negotiable instruments.

American Colonial Coins

THE SMALL SUPPLY of coins possessed by early American colonists was used chiefly to pay for European imports which left them with little coined money for local transactions. Therefore, they had to resort to barter, or use of some other medium to carry on trade. Spanish dollars were widely circulated after the colonists began to trade with the West Indies. These coins, popularly known as *pieces of eight,* were subdivided into eight reals. They had different values in the several colonies and furthermore were debased by clipping and sweating. English merchants accepted them only for the intrinsic value of the metal.

Massachusetts was the first colony that sought to ameliorate the coinage difficulties. In 1652, the General Court of Massachusetts established a mint for the coinage of shillings, sixpence, and threepence pieces. The shilling was called *pine tree shilling* because it bore the impress of a pine tree. In 1686, this mint was closed by the English Government without having materially affected the shortage of metallic money. In 1658, Lord Baltimore tried to have coins for Maryland made in England. The series embraced a shilling, sixpence, fourpence, and a small copper

coin called a denarium. The project was hardly started before it was suppressed by the British Government. Following these attempts to establish special coinages for colonies, Spanish-American silver was legalized at prescribed rates in terms of the shilling, and this with other foreign coins and copper tokens, struck principally by speculators, constituted the currency of the colonies until the Revolutionary War.

When the American colonies gained their independence, the provision of a coinage became their sovereign right. Under the Constitution, the Congress is empowered to coin money, and regulate the value thereof. Prior to 1789, the coins in principal use in the United States were those of foreign nations. They were made legal tender by the Act of February 9, 1793, at rates proportional to their gold and silver content. Although this act was suspended for several years and was amended from time to time, no final provision for the retirement of foreign coins from circulation and withdrawal as legal tender was made until passage of the Act of February 21, 1857.

Following the Declaration of Independence and up to the adoption of the Constitution, the National Congress and some of the State legislatures endeavored to enlarge the supply of small coin in circulation and to eliminate the vast amount of light weight and spurious coppers then commonly current. In 1787, the National Congress authorized the minting of copper one cent coins under private contract. These are known to collectors as the *Franklin cent,* although no evidence exists that Benjamin Franklin had anything to do with the design, which was selected by Congress and consisted of a circular chain of thirteen links enclosing the motto, *We Are One,* on one side of the coin. On the other side was a dial with hours marked upon it, the noonday sun above, the Latin word *Fugio,* (meaning "I Fly—or, in connection with the symbol of the dial, "Time Flies") and the phrase, *Mind Your Business.* Vermont, Connecticut, New Jersey, and Massachusetts also coined copper pieces under private contract, except in Massachusetts, which not only established a mint, but also proposed to make coins of precious metals as well as copper.

In 1785 Congress adopted the dollar as the monetary unit of the United States, and in 1786 fixed its value as 375.64 grains of pure silver. This unit was derived from the Spanish piaster, or milled dollar, popularly known as *piece of eight* which constituted a large part of the metal coin in circulation in the colonies. The first monetary system of the United States was established by the Act of April 2, 1792, which provided that "the money of account of the United States shall be expressed in dollars or units, dismes (afterward called dimes) or tenths, cents or hundredths, and milles or thousands," and established two units of value, the gold dollar containing 24.75 grains of pure gold (27 grains of standard gold 0.916-2/3 fine), and the silver

dollar containing 371.25 grains of pure silver (416 grains of standard silver 0.8924 fine), the proportionate mint ratio of the two metals being 1 to 15.

First United States Mint

THE FIRST MINT of the United States was established in Philadelphia in 1792. The Act of April 2, 1792, provided for the coinage of the gold eagle ($10), half eagle and quarter eagle; the silver dollar, half dollar, quarter dollar, disme (later dime), and half disme; the copper cent and half cent. The first coins struck were not put into circulation. They were half dismes made from household silver belonging to George Washington. It is tradition that at a ceremony on an unrecorded date in 1792, David Rittenhouse, first Director of the Mint, presented the first of these half dismes to Martha Washington, wife of the President. The first United States coins to enter circulation were one cent and half cent pieces. The cents were struck first on March 1, 1793, on a hand-operated press. The cents and half cents issued in 1793 were followed in 1794 by silver dollars and half dollars and in 1795 by gold eagles and half eagles.

The first Mint building was protected by one watchman, a bell and a dog. This savage dog, *Nero*, was bought January 7, 1793, for three dollars, and was the first of several that kept guard over the United States Mint for more than a quarter of a century. Armed with a dirk and loaded pistol, the night watchman was required, according to Treasury records, "to ring the yard bell every hour precisely by the Mint clock after ten o'clock, and send the dog through the yard immediately after ringing the bell." The Mint was originally under the Secretary of State but later was transferred to the Secretary of the Treasury. Today, the Bureau of the Mint is an important branch of the Treasury Department with about 2500 employees.

In addition to the parent mint at Philadelphia, which has been in continuous operation since 1792, coinage mints are now operated in San Francisco and Denver. The San Francisco mint was opened in 1854 and the Denver mint in 1906. The coins struck at the Philadelphia Mint bear no mint mark, but those produced at San Francisco have the mint mark, S, and those minted at Denver, the mint mark, D. Other mints were operated in the past at New Orleans, opened 1838 and suspended in 1861; reopened in 1879 and closed in 1909; mint mark, O; operated as an assay office from 1909 to the end of the fiscal year 1942; Carson City, Nev., opened 1870 and closed 1893; mint mark, CC; Charlotte, N. C., opened 1838 for gold coinage only, closed 1861; mint mark C: Dahlonega, Ga., opened 1838 for gold coinage only, closed 1861; mint mark, D. The mints at New Orleans,

Charlotte and Dahlonega were captured by the Confederates during the War Between the States and some confederate silver coins were minted at New Orleans.

In addition to coinage operations, mints and assay offices receive gold and silver for the United States Treasury Department. Assay offices are conducted in New York and Seattle. Electrolytic refineries are also in service at the New York, Denver and San Francisco institutions.

In 1935 Congress provided for the establishment of a depository for the safe-keeping of gold bullion, located on a tract of land obtained by the Treasury Department from the Fort Knox military reservation at Fort Knox, Kentucky. This depository was occupied in 1937. A similar depository for silver bullion at West Point, New York, on land procured from the Military Academy reservation was occupied in 1938. In addition to these two main depositories, the most modern protective equipment has been installed for the safe-keeping of bullion and coin at all other Mint establishments.

Designs

IN THE original resolution of Congress of April 6, 1792, establishing the United States Mint at Philadelphia, the devices and legends for the United States coins were prescribed as follows:

Upon one side of each of the said coins, there shall be an impression emblematic of liberty with an inscription of the word, Liberty, and the year of the coinage; and upon the reverse of each of the gold and silver coins, there shall be the figure or representation of an eagle with the inscription United States of America, and upon the reverse of each of the copper coins there shall be an inscription which shall express the denomination of the piece, namely, Cent or Half Cent, as the case may require.

The device chosen as emblematic of liberty for the first regular coins was a bust of the goddess of Liberty which appeared on the cent and half cent in 1793, the only denomination struck that year. It is almost certainly an imitation of the bust on the medal made by the celebrated French artist, Dupre, to commemorate the victories of Saratoga and Yorktown. The original practice, which evidently was based on the principle of having a different type of *Liberty* on the three kinds—gold, silver, and minor coins—was lost sight of in later years.

On the first gold coins the eagle, which the law required for the reverse of all coins, was a naturalistic bird with expanded wings, standing on a palm branch; holding in his beak a laurel wreath. On the early coins there is no symbol relating to war, peace or dominion, which later became an important feature on the reverse of all gold and silver coins. In 1795, the first year

of the coinage of gold, a second design was prepared, the reverse containing the Great Seal of the United States with the omission of some slight details.

A cluster of arrows in the right claw of the eagle and an olive branch in the left claw being opposite to their positions on the true seal, constitute an interesting variation. The eagle which first appeared on the half dollar in 1807 held an olive branch in the right claw and arrows in the left and they were in that position with one exception until 1907, when radical changes respecting these emblems were introduced on the gold coins.

The use of stars to symbolize the States was adopted in the first years of the national coinage. On the obverse of the gold and silver coins of 1795, are fifteen stars and later as many as sixteen were used, the number corresponding in each case to the number of States in the Union at the time the coins were minted. The practice of adding a star for each State was also begun on the reverse of the coins after the Great Seal type was adopted. It was soon found that this custom was impracticable on account of the increasing number of stars, consequently artists reverted to the custom of using thirteen stars for the original States. Until 1892, the six-pointed star was used, but on the reverse of the half dollar and quarter dollar of that year, the stars were five-pointed, while the traditional six pointed star was retained on the obverse. The change probably was due to the presence of the five pointed star on the Great Seal.

The bust of Liberty on the first coins was only one of the idealized portraits of the goddess on United States coins. In 1840 Christian Gobrecht designed for the silver dollar a figure of Liberty seated facing to the right, which was on all silver coins until 1878. James A. Longacre modeled a bust of Liberty of strength and beauty for the gold dollar and double eagle authorized by Congress in 1849. The same head with a different headdress was on the three dollar gold piece of 1854. It was also on the nickel three cent piece and, with a different arrangement of the feather headdress, it became the *Indian Head* of the cent of 1859, which was minted until 1909, when it was replaced by the *Lincoln* cent.

Other busts of Liberty on silver coins were designed by George T. Morgan and C. E. Barber. Mr. Morgan's design was used on the silver dollar of 1878, and Mr. Barber's on the silver half dollar, quarter dollar, and dime of 1892. A majestic standing figure of Liberty was created by Saint-Gaudens for the double eagle of 1907. In 1916, A. A. Weinman placed a figure of Liberty, walking, on the obverse of the dime, and a fasces entwined with an olive branch on the reverse. The 1916 quarter dollar, designed by Herman MacNeil also portrayed a figure of Liberty, and a bust of Liberty was on the *Peace Dollar* of 1921, designed by Mr. Anthony de Francisci to commemorate ratifica-

tion of the Treaty of Peace with Germany and Austria in November 1921.

Although the Indian head was originally intended for the one cent piece, it has been used also on three gold coins. J. E. Fraser also put an Indian head in the design of the five cent piece, with a buffalo on the obverse first issued in 1913. Many rumors have circulated regarding the identity of the models who posed for the Indian heads on the one cent and the Buffalo nickel. Both were idealized and Mr. Fraser has stated that the head on the five cent coin is a sculptor's ideal of an American Indian made from a composite of the heads of five different models.

A variation from the eagle designs of other United States coins was the *Flying Eagle* cent first minted in 1857. It weighed less and was much smaller than earlier cents and was composed of 88 percent copper and 12 percent nickel. It was the first of the small one cent pieces. The color of the alloy was so light that they were popularly called *White Cents*. The Flying Eagle cents were minted for circulation during only two years, 1857 and 1858.

The *Lincoln* cent was the first regular issue of United States coins to bear the portrait of a person. For some reason, there had always been a prejudice against the use of portraits of individuals on United States coins, but as the centennial anniversary of the birth of Lincoln approached, there was a strong popular sentiment for a coin bearing his likeness and a fine bust of Lincoln modeled by Victor D. Brenner was adopted for a new one cent coin. This was followed in 1932 by the *Washington* quarter dollar issued for the George Washington bicentennial. The coin was designed by John Flanagan. The third portrait coin among the regular issues was the Jefferson five cent piece first minted in 1938 from a design selected through a competition open to all American sculptors. Felix Schlag won the prize of one thousand dollars. The portrait of Thomas Jefferson is on the obverse and on the reverse is Monticello, his home near Charlottesville, Va. Many special, or "commemorative," coins bear portraits.

The United States motto E PLURIBUS UNUM was the first legend used on our national coinage. In 1795 the main features of the Great Seal of the United States were incorporated into the design on the reverse of the half eagle, and the motto was inscribed on the scroll. The same device was later emblazoned on all precious metal coins, in its proper position on the scroll in the beak of the eagle. When a new type of eagle was introduced on the half dollar and half eagle in 1807, a scroll bearing the motto was placed in the field above purely for decoration. In 1834, the scroll and motto were removed from the half eagle and quarter eagle, but the motto was restored when those coins were redesigned in 1908.

E PLURIBUS UNUM inscribed on the scroll in the eagle's beak was included in the design of the double eagle in 1849 and has always been retained. It was omitted from the silver dollar with Liberty seated, from 1840 to 1873 and from the half dollar from 1836 to 1892. In 1878, the motto was returned to the dollar as the principal inscription on the obverse, instead of being held by the eagle on the reverse. On the gold coins of more recent issue, this motto was again placed on the reverse as a secondary legend in the field, except on the double eagle, where, together with the thirteen stars, it adorns and protects the edge.

IN GOD WE TRUST first appeared on United States coins in 1864, and owes its presence largely to the increased religious sentiment in the dreaded crisis of the War Between the States. The records of the Treasury Department show that apparently the first suggestion of the recognition of the Deity on the coins of the nation was made in a letter dated November 13, 1861, to the Secretary of the Treasury, Salmon P. Chase, from Rev. M. R. Watkinson, minister of the gospel of Ridleyville, Pa., in which he said:

> "You are probably a Christian. What if our Republic were now shattered beyond reconstruction? Would not the antiquaries of succeeding centuries rightly reason from our past that we were a heathen nation? What I propose is that instead of the goddess of liberty, we shall have next inside the 13 stars a ring inscribed with the words "perpetual union;" within this ring the all-seeing eye, crowned with a halo; beneath this eye the American flag, bearing in its field stars equal to the number of States united; in the folds of the bars the words "God, liberty, law."

Mr. Watkinson's letter was one of many appeals to Secretary Chase from devout persons suggesting and urging that the Deity be recognized on our coins in a manner similar to that commonly found on the coins of other nations. Accordingly, on November 30, 1861, Secretary Chase addressed a letter to the Director of the Mint at Philadelphia, with the statement that:

> "No nation can be strong except in the strength of God, or safe except in His defense. The trust of our people in God should be declared on our national coins. You will cause a device to be prepared without unnecessary delay with the motto expressing in the fewest words possible this national recognition."

Several forms expressing the purpose of Secretary Chase were suggested. One was *Our country; our God.* Patterns for the half dollar and half eagle minted in 1862 have on them *God, Our Trust,* and a pattern for a bronze two cent piece made in 1863 has the bust of Washington on the obverse and the legend, *God and Our Country.* The Secretary of the Treasury in a letter to the Director of the Mint in December, 1863 suggested IN GOD WE TRUST, the form finally adopted, and which was first inscribed on the new two cent coin in 1864. In 1866, the double eagle, eagle, half eagle, silver dollar, half dollar, and quarter dollar bore the same motto. On coins of smaller denominations,

the religious motto has been placed only on the bronze two cents; nickel five cents from 1868 to 1883; the Lincoln cent first issued in 1909; and the Jefferson nickel. When the double eagle and eagle of new design were issued in 1907, *IN GOD WE TRUST* was omitted, but by popular demand Congress ordered it restored in 1908. It was also included on the half eagle issued the following year.

Signatures on Coins

THE CUSTOM of placing the signature of an engraver or artist upon a coin die dates back to remote antiquity. Many Greek coins, especially those produced by the cities of Sicily and Magna Graecia are signed with the initials of the artist, and in some cases with his full name. This practice has prevailed in European countries, but only a few of the United States coins are signed. The first signature was *J. B. L.* (Longacre) on the double eagle of 1849, placed on the truncation of the bust. The same signature is on the three dollar gold piece of 1854. Mr. Longacre also signed the die of the Indian head cent of 1859, by placing an *L* unobtrusively on the ribbon that hangs from the back of the band of the feather bonnet over the hair.

Before the cents signed by Mr. Longacre were issued, C. Gobrecht put his full name on the die of the silver dollar of 1836, but only patterns from these signed dies were made, and the name of the artist was erased when the design was used on the coin. The silver dollar of 1878 bears the signature of the designer and engraver G. T. Morgan, on both sides. An *M* is on the truncation of the bust and also on the ribbon that unites the branches of the wreath on the reverse. In like manner, the signature letter *B* of C. E. Barber, is on the truncation of the bust of Liberty on the half dollar, quarter dollar and dime of 1892. Of the recent gold coins, the designer Saint Gaudens put his initials, *A. S. G.*, in monogram beneath the date on the double eagle, but the eagle was not signed. The half eagle bears the initials, *B. L. P.*, of the artist Bela L. Pratt, beneath the bust of the Indian.

The silver dollar of 1921 bears on the obverse, in the field under the head, the initial *F.* for Anthony de Francisci. On the reverse of the 1916 half dollar, in the lower right field, are the initials in monogram of A. A. Weinman, and they are also on the obverse of the dime in the lower right field. The obverse of the quarter dollar of the design adopted in 1916 bears the initial *M* for Herman MacNeil on the base of the right portal. Under the date on the obverse of the Buffalo five cent piece, first issued in 1913, is an *F* for the designer, J. E. Fraser. The one-cent piece of 1909 with the bust of Lincoln, originally bore the initials *V. D. B.* of the artist, Victor D. Brenner on the reverse, but after nearly

thirty million pieces had been issued they were removed because they were too conspicuous. In 1918, the signature was replaced in letters so small and unobtrusive that a magnifying glass is needed to discern them. They are under the shoulder of the bust. The two newest coins, the Washington quarter designed by John Flanagan, and the Jefferson five cent piece, by Felix Schlag, are unsigned.

Denominations of U. S. Coins

FROM TIME to time additional coins have been added to those originally authorized by Congress. Some forms of coinage were discontinued and changes were made in design and content of others. Discontinued coins and the dates of their coinage are:

GOLD: *Three-dollars* 1854-1889; *Dollar* 1849-1889.
SILVER: *Trade dollar* 1873 (discontinued 1883; demonetized 1887); *Twenty cents* 1875-1878; *Half dime* 1794-1873; *Three cents* 1851-1883.
NICKEL: *Three cents* 1865-1889.
BRONZE: *Two cents* 1864-1873; *Half cent* 1793-1857.

Coinage of gold for domestic use was discontinued in 1933 and outstanding gold coins were withdrawn from circulation. The Gold Reserve Act of 1934 provides that:

> No gold coin shall hereafter be coined and no gold coin shall hereafter be paid out or delivered by the United States—All gold coin of the United States shall be withdrawn from circulation and together with all other gold owned by the United States shall be formed into bars of such weights and degrees of fineness as the Secretary of the Treasury may direct.

The metal and alloy contents of coins are prescribed by Congress and have varied from time to time. The weight and content of United States coins currently issued are as follows:

SILVER: *Dollar,* 412.50 grains, 90 percent silver, 10 percent copper. *Half dollar,* 192.90 grains, 90 percent silver, 10 percent copper. *Quarter dollar,* 96.45 grains, 90 percent silver, 10 percent copper. *Dime,* 38.58 grains, 90 percent silver, 10 percent copper.

MINOR COINS: *Five cents,* 77.16 grains, 50 percent silver, 50 percent copper. *One cent,* 48.00 grains, 95 percent copper, 5 percent nickel and zinc.

In 1942, the five cent coin made of half silver and half copper was authorized by Congress to replace the nickel five cent piece of the same weight and design, containing 57.87 grains of nickel and 19.29 grains of copper. The purpose was to release nickel for use in the war.

How Coins Are Made

PREPARATION of the alloy is the first step in minting coins. In silver coins, the alloy is copper and silver. The two metals are melted together in electric induction furnaces and cast into thin bars, varying in width and thickness according to the size of the coins for which they are to be used. These ingots are rolled to reduce them to strips the thickness of the coins to be minted. The strips are fed into presses which punch out circular blanks of the approximate dimensions of the finished coin. The blanks are annealed to soften them and are put into rotating cylinders called tumbling barrels, containing chemical solutions which clean and burnish the metal, and finally, into centrifugal drying machines. They are next passed through milling or "upsetting" machines which produce the raised or "upset" rims of the coins.

The blanks are now ready to receive the stamped design. During the whole process of coinage, the weights of the blanks are tested frequently to see that they comply with the law. The mints have scales so accurate that they register the weight of a human hair or a signature on a piece of paper. Coins that do not conform to the legal weight limit are condemned and re-melted with the scrap metal. At all stages, the weight of the metal is checked to prevent loss.

The final important operation is stamping the designs on the coins. The blanks go into a stamping or coining press where each one is held firmly by a collar. They are struck under pressure varying from 40 tons for one cent pieces and dimes to 170 tons for silver dollars. Upper and lower dies imprint the design on both sides of the coin in one operation. For the dollar, half dollar, quarter, and dime, the inside of the collar holding the blank is grooved. The pressure forces the metal into these grooves to make the "reeding" on the finished coin. This reeding makes it impossible for the coin to be shaved without detection.

Special Coins and Tokens

TRADE DOLLAR

Silver trade dollars were issued from 1873 to 1883, inclusive. They were authorized by Congress to encourage trade with the Orient and were of the same weight and fineness as the *Mexican dollar* (420 grains, 0.900 fine) which circulated freely in oriental countries. The trade dollar did not achieve the results anticipated and many went into circulation in the United States. Their coinage was discontinued, and in 1887 they were withdrawn from circulation and recoined into standard dollars.

MERCHANTS' TOKENS

At two periods in the history of the United States coinage, minor coins became so scarce that it was necessary for business firms to issue copper tokens to supply the demand for small change. The first period was in 1837 when many business houses used copper tokens the size of the large copper cents. The tokens contained an advertisement of the issuing merchant. In that period, political tokens, forerunners of campaign buttons, also flooded the country. They bore strongly expressed political slogans voicing the partisan politics of the day, and were not intended to replace money. During the War Between the States, the dearth of minor coins led to large issues of tokens, popularly called *Civil War Tokens* and *Merchants Cards*. Some bore patriotic legends and others contained only the name of the issuing merchant and his advertisement.

PRIVATELY ISSUED GOLD COINS

Privately issued gold coins in denominations ranging from quarter dollars to fifty dollars were widely used in California after the discovery of gold there, and also in Georgia, North Carolina, and Colorado. The production of these gold coins of a private character was carried on by a large number of mining companies and banks. Most of the pieces were round, but a few had abnormal shapes, including octagonal. Ingot bars also were used. Templeton Reid of Lumpkin County, Ga.; Bechtler of Rutherfordton, N. C.; and Moffat & Company in the far west were among the best-known makers of private gold coins.

COMMEMORATIVE COINS

In addition to the regular issues of United States coins, Congress, from time to time, has authorized the minting of commemorative coins related to important anniversaries in United States history. These are not distributed by the Treasury Department but are turned over to private agents designated in the Acts authorizing the coins. The agents buy the coins at face value and generally sell them to the public at a premium. Occasionally, a commemorative coin is minted to be sold at an exposition commemorating some historical event, as the first commemorative series, the Columbian half dollar and quarter dollar, issued for the World Columbian Exposition, in Chicago in 1893 to commemorate the fourth centenary of the discovery of America.

Paper Money

PAPER MONEY was in circulation many centuries ago. Marco Polo reported that the Chinese were using it when he visited their country in the thirteenth century. The paper notes were

legal tender and were in various denominations. The same traveler also said that Emperor Kubla Khan issued notes printed on mulberry paper as early as 1273 A.D. Each note was stamped with the red seal of Kubla and signed by his treasurers. The oldest specimen of paper money known to exist is the *Kwan* note, first issued in China in 1368 A.D. It was 8½ by 13½ inches, or roughly about the size of a sheet of present-day typewriter paper.

Bandits in the middle ages were responsible for the adoption of paper money. Metal coins were cumbersome to transport and travellers were in constant danger of being dispossessed of their treasure by bandits. Robbers, however, did not want pieces of paper which they could not get redeemed for gold or silver, so the custom grew among traders of depositing coins with goldsmiths and obtaining receipts for them, just as warehouse receipts are given for the storage of commodities today. Gradually, these receipts became negotiable and were transferred from one person to another instead of drawing and transferring the actual coin. The next step was the circulation of promises to pay money on demand, without special reference to coins on deposit. As people became accustomed to the circulation of paper currency, governments began to issue notes and bills which were promises to pay in coin but which were popularly accepted as freely as the metallic money. However, there was no extensive use of paper money until public banks were founded.

Paper currency was used in the United States before the Declaration of Independence. Most of the American colonies issued *Bills of Credit* to finance the French and Indian Wars, and some of them resorted to that kind of money to meet ordinary expenses. These notes declined in value until they were practically worthless as the volume increased. During the Revolutionary War, the colonies and the Continental Congress issued irredeemable paper money. The plates for the Continental currency were engraved by Paul Revere in 1775. From 1775 to 1779 inclusive a total of $241,552,780 in Continental notes was issued, and in addition, the States distributed $209,524,776 in notes.

The Continental Congress intended that each State should assume responsibility for the redemption of the Continental currency proportionate to its population, but all such plans to support the credit of the notes ended in failure, and the currency depreciated so much that the expression *not worth a continental* became a synonym for *valueless*. In 1781, Continental notes were quoted at the rate of 225 to 1 in coin, and when the Constitution was adopted, they were declared redeemable at the rate of one cent to the dollar. In May 1781, Continental currency ceased to pass as currency though for some time specu-

lators bought and sold it at prices varying from five hundred to a thousand to one.

The next paper money in the United States was issued after the adoption of the Constitution in 1789 by two United States banks established by Act of Congress. The first United States Bank closed in 1811 and the second in 1836. After 1836, the chief form of paper currency in circulation was bank notes issued by State banks. In some States these banks were very carefully regulated and their notes were redeemable in specie, but unfortunately many of the states provided very lax supervision and issuance of bank notes was practically unrestricted. Many *wild cat* banks sprang up and issued paper notes recklessly, with no intention of redeeming them. Like the Continental notes, this fiat money depreciated greatly in value and much of it was worthless. This led to utter confusion. Some state banks notes were good, others were worthless.

There were approximately 7,000 different kinds of bank notes in circulation and about 5,500 of altered and counterfeit notes. Moreover, in some sections large quantities of paper currency existed while in others the supply was hardly sufficient to meet current needs. To end this confusion Congress enacted the National Banking Act in 1863 under which national banks were organized and were required to own government bonds against which they could issue national bank notes. However, the state banks continued to issue their notes and the confusion was greater than ever. Finally in 1865 Congress levied a tax of ten percent on the note issues of all state banks, making it unprofitable for them to issue any more. National bank notes were the only bank notes issued in the United States for nearly fifty years, until the establishment of the Federal Reserve System. Now, they are no longer issued and have been in process of retirement since March 1935.

The first paper money issued by the United States Government was authorized by Congress as a result of the great financial needs of the War Between the States. *Demand notes* were authorized by Act of Congress July 17 and approved August 5, 1861. They were noninterest-bearing Treasury notes, payable in gold on demand. The first amount authorized was $50,000,000 but an additional $10,000,000 was authorized by the Act of February 12, 1862. These notes were not legal tender when first issued, but were made so later. The Act of February 25, 1862 provided for the substitution of *United States notes* for *demand notes* and the latter were retired as they came back into the Treasury.

United States notes which replaced the *demand notes* did not bear interest and were payable to the bearer on demand. They were legal tender for all debts except duties on imports and interest on the public debt. They were printed with green

ink and were popularly called *greenbacks*. Another nickname was *legal tenders*. The total amount of United States notes authorized by various Acts was $450,000,000 and the highest amount outstanding at any one time was $449,338,902 on January 30, 1864. During the period from January 3, 1862 to January 1, 1879 specie payments were suspended and no provision was made for the redemption of United States notes in coin. This fact, coupled with enormous issues of short-term treasury notes which circulated almost like money, and the rapid expansion of state bank notes in the early 1860's, led to the depreciation of the national currency which caused great hardship. Wages failed to keep pace with the general rise in prices. In the years 1862-1865, the average price in gold of one hundred dollars in *greenbacks* fell as low as $39 in August and September 1864.

Bureau of Engraving and Printing

THE BUREAU OF ENGRAVING AND PRINTING began operation August 29, 1862 with an initial force of two men and four women in an attic room of the Treasury Building. The machinery was hand operated and the first job was to separate, seal, and sign $1 and $2 United States notes that had been printed by a private company and delivered to the Treasury in sheets.

The Bureau soon outgrew its restricted quarters in the Treasury Building, and on July 1, 1880 moved to a new building at Fourteenth and B Streets, S. W. in Washington. Additions to this structure were made from time to time, but it also became inadequate and the present fireproof building was erected at Fourteenth and C Streets, S. W. at a cost of approximately three million dollars. It has been occupied since 1914. An annex, completed in 1938, cost about $6,235,000. These specially planned buildings contain approximately 22 acres of floor space; house more than 5,700 employees, and the machines are of the most advanced type. All processes in the production of paper currency except paper making, but including the mixing of ink and the preparation of the design are carried on there. The Bureau of Engraving and Printing also produces all of the bonds, notes and other federal securities, all revenue and postage stamps; and a large variety of checks and other forms and papers used in the financial and business transactions of the Government.

When Congress authorized the first issue of United States paper money on February 25, 1862, the Treasury was without any facilities to print the notes. All of the paper money which circulated in the United States before the War Between the States was made by private companies for the banks. The first

United States notes, called *legal tenders* or *greenbacks* were engraved and printed under contract by private companies. Treasury employees cut the sheets of notes apart with shears and affixed the official signatures and the Treasury seal. It was a slow and expensive process, and the differences in penmanship in the signatures increased the chance of counterfeiting. Congress was asked to grant permission to imprint facsimile signatures from engraved plates and in August 1862, hand machinery for separating, sealing and signing the notes was installed, and on November 20, 1862, the preparation of plates engraved by Government workers began.

Gradually federal employees took over all of the operations formerly performed by private agencies. The last task to be assumed was the printing of postage stamps in 1894. Long before that, power-driven machinery had been installed. At present, the Bureau has a staff of expert artists and steel engravers, each working with machinery designed especially for his particular task. The resulting products are of the highest type, and their cost is strikingly low. The average cost of producing a piece of paper money, of any denomination, is less than one cent.

How Paper Money Is Made

THE PRODUCTION of paper notes begins with the work of an artist in the engraving division of the Bureau of Engraving and Printing. He designs a model, based upon suggestions made during discussions of officials concerned with its issuance. The final design of all paper money must be approved by the Secretary of the Treasury.

The design of the artist is reproduced in soft steel by engravers. Separate portions, such as portraits, vignettes, ornaments, and lettering are commonly engraved separately by specialists. Each works with a steel tool known as a graver, aided by a powerful magnifying glass. The finished engraving, or die, is heated in cyanide of potassium and dipped in oil or brine to harden it. The die is then placed on the bed of a transfer press and, under heavy pressure, a cylinder of soft steel, called a roll, is rolled over it to transfer the engraving on to the roll of softer metal. Next, the steel roll is hardened, and the design is again transferred to soft steel plates, by rolling under great pressure. These plates, with the design in intaglio, or cut-in impression, like the original, are hardened, cleaned and made ready for the press. The original die may be used to produce numerous rolls and each one is available to make additional plates as those in service wear out. An electrolytic process for duplicating plates has also been developed in the Bureau.

Distinctive paper used in printing currency is prepared under a special formula and is manufactured for the Treasury Department by a private firm. It is illegal for anyone else to make this paper. It contains very fine, short red and blue threads, difficult to duplicate. Nylon has been substituted for the silk thread formerly used to produce the tiny lines of color. When paper is received at the Bureau of Engraving and Printing it goes first to the wetting division which counts and moistens the sheets. This work was originally done by hand but especially designed machinery has been used for wetting since 1911.

The sheets of paper are seasoned for several days and then are ready for printing on power-driven, flat-bed presses, each operated by a pressman and two assistants. A press has four plates, each carrying the design for twelve notes. The plates are inked by hard rubber rollers, and surplus ink is removed by hand with a device known as a wiper, so that the ink is left only in the etched lines of the design. The plates are pressed against the moistened paper, which absorbs the ink making it an integral part of the note. The backs of the twelve notes are first printed on each sheet and then the faces.

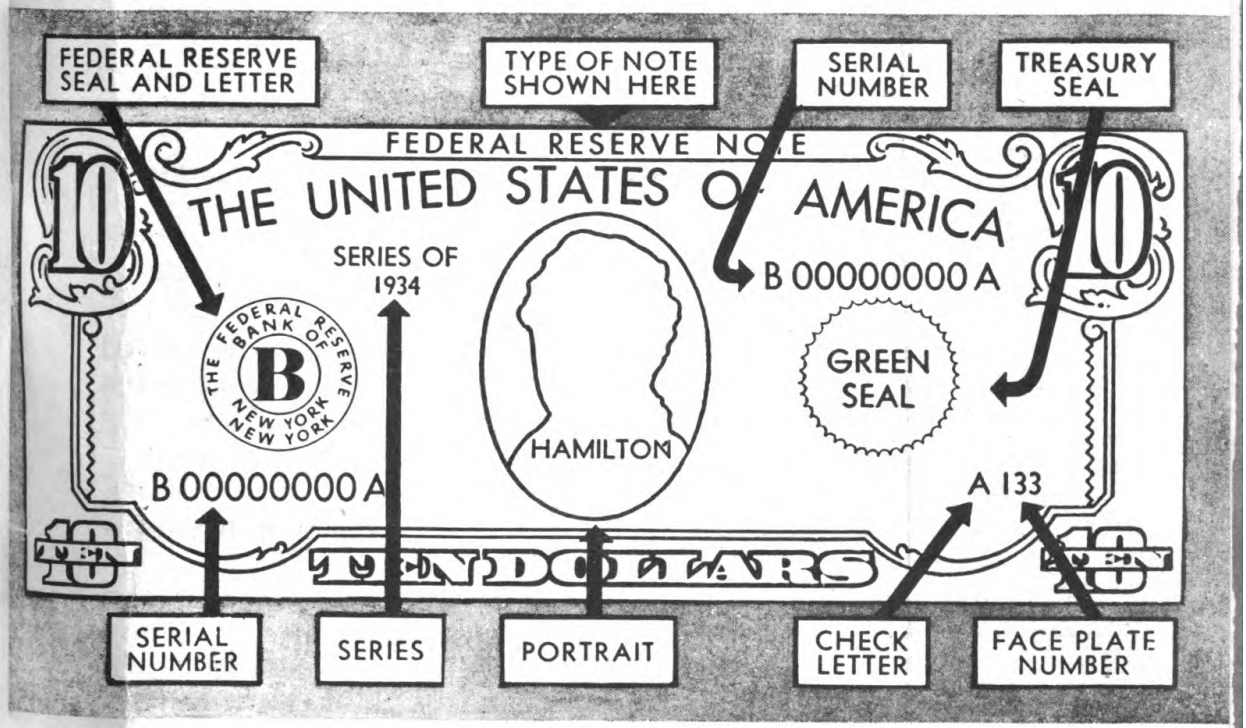
After the sheets have been printed on both sides, they are put through a sizing operation which improves the finish and strengthens the paper by making it more resistant to dirt, grease and wear. A final imprint adds the seals and numbers. On some notes the signatures of the Secretary of the Treasury and the Treasurer of the United States are printed in facsimile in connection with the numbering and sealing; on others, the signatures are included in the engraved die for the face of the note. The sealing and numbering operation includes separation of the sheets into notes, and they come from the machine counted into packages of one hundred. More than 1,100 tons of paper are used annually in producing United States currency and about 1,400 tons of ink is manufactured in the Bureau from raw materials.

At each stage in the manufacture of United States paper money, there are safeguards against losses of partially executed or complete work and unauthorized use of any portion of the Government's machinery. All dies, rolls and plates are kept in a strong, fireproof vault from which they may be taken only by requisition. From the time the paper is delivered, each division must account for every sheet that has come into its control during the day, before any employees are allowed to leave the building at night. Mechanical counting appliances record accurately each operation of the presses, which are locked when scheduled work is finished. Each operating division reports to a central accounting division so that a complete picture of the whereabouts of all paper and partially prepared products is available at all times.

Counterfeit Money

COUNTERFEITING HAS flourished for centuries throughout the world. The Emperor Nero is said to have been the first counterfeiter of minted money. Since his time, others have played upon the ignorance of the public to ply the art.

In the United States the first appropriations for the suppression of counterfeiting were made by Congress in 1860 and the United States Secret Service was established in the Treasury Department in July 1864. It is charged with the suppression of counterfeiting and alteration of all United States paper money, coins, bonds, stamps, and other obligations of the United States and other governments.



KNOW YOUR MONEY

(Diagram showing important features of paper currency)

The government never redeems counterfeit money and the public is at the mercy of the counterfeiters who are able to pass their spurious coin and paper money, not because they can always produce markedly successful imitations of the genuine money, but because the average citizen is not sufficiently familiar with the details of the designs of genuine coins and paper currency to identify a counterfeit. Smudgy printing, smeared lines

and indistinct lettering are some of the chief defects of counterfeit bills.

To find if paper money is counterfeit, compare the suspected bill with a genuine one of the same type and observe these things:

PORTRAIT

Counterfeit—dull, smudgy, or unnaturally white, scratchy; *oval background* is dark, lines irregular and broken. Portrait merges into the background.
Genuine—stands out distinctly from the oval background; eyes appear lifelike. *Background* is a fine screen of regular lines.

COLORED SEAL

Counterfeit—Saw-tooth points around rim are usually uneven; broken off.
Genuine—Saw-tooth points around rim are even and sharp.

SERIAL NUMBERS

Counterfeit—Poorly printed, badly spaced, uneven in appearance.
Genuine—Figures firmly and evenly printed, well spaced.

PAPER

Counterfeit—Generally has no silk threads, but these may be imitated by very small red and blue ink lines.
Genuine—Printed on distinctive paper in which very small red and blue threads are scattered. The silk threads are not always noticeable on bills that are badly soiled or worn.

HOW TO DETECT COUNTERFEIT COINS

(1) Study genuine coins so as to become familiar with the expert workmanship of the United States mints.
(2) Ring coins on a hard surface. Genuine coins have a clear, bell-like ring. Counterfeit coins have a dull sound.
(3) Feel all coins. Most counterfeit coins feel greasy.
(4) Compare the reeding. The corrugated outer edge of a suspected coin especially should be compared with a genuine coin. The ridges on a genuine coin are distinct and evenly spaced. On a counterfeit they are poorly spaced and irregular.
(5) Cut the edges of suspected coins. In most counterfeits, the metal is soft and can be cut easily with a knife. Genuine coins are very hard and not easily cut.
(6) Test a suspected silver coin with acid, consisting of 24 grains of Nitrate of Silver; 30 drops Nitric acid and one ounce of water. Scrape the coin, drop a little acid on it. If the coin is counterfeit, it will turn black. The test does not apply to coins not made of silver. The ingredients for the testing solution can be obtained for a few cents from drug stores.

Types of Paper Money

THREE TYPES of paper currency are now being issued and circulated by the United States government: *Federal Reserve notes, silver certificates,* and *United States notes. Gold certificates* are issued to Federal Reserve banks but do not circulate as money.

Federal Reserve notes are obligations of the United States and a first lien on all the assets of the issuing Federal Reserve Bank. They are secured by the deposit with Federal Reserve agents of gold certificates equal to the amount of notes issued, or of gold certificates and discounted or purchased commercial paper that is eligible under the terms of the Federal Reserve Act or, until June 30, 1943 of direct obligations of the United States if authorized by a majority vote of the Board of Governors of the Federal Reserve System. Federal Reserve banks must maintain a reserve in gold certificates of at least 40 percent, including a redemption fund which must be deposited with the Treasurer of the United States against the Federal Reserve notes in actual circulation.

Silver certificates are secured by deposits in the United States Treasury of silver bullion, or standard silver dollars, of a monetary value equal to the amount of silver certificates outstanding.

Types of paper money no longer issued are *Treasury Notes* of 1890, *National Bank notes, fractional currency* and *gold certificates* of the type issued before 1934.

The Treasury maintains a reserve of gold to back United States notes.

PORTRAITS ON PAPER MONEY

Regardless of the type, all bills of the same denomination bear the same portrait. Those on the several denominations are:

One Dollar—Washington; *Two Dollar*—Jefferson; *Five Dollar*—Lincoln; *Ten Dollar*—Hamilton; *Twenty Dollar*—Jackson; *Fifty Dollar*—Grant; *One Hundred Dollar*—Franklin; *Five Hundred Dollar*—McKinley; *One Thousand Dollar*—Cleveland; *Five Thousand Dollar*—Madison; *Ten Thousand Dollar*—Chase.

The Treasury seal and serial numbers are *green* on Federal Reserve notes, *red* on United States notes, and *blue* on silver certificates.

SMALL-SIZED PAPER CURRENCY

On July 10, 1929, the Treasury Department began to circulate small-sized paper currency. The large paper money formerly in use was 3⅛ by 7⅜ inches. The new, small money is 6-5/16 by 2-11/16 inches.

How Money Gets In Circulation

UNITED STATES coin is distributed chiefly through Federal Reserve banks and their branches. Stocks are replenished by shipment from the United States mints at the direction of the Treasurer of the United States. Payment for the coin is made by credits to the account of the Treasurer of the United States at the banks. Member banks get their supplies of coin by drawing upon their deposits with Federal Reserve banks. Banks that are not members of the Federal Reserve System usually obtain coin from a member. Some coin is also put in circulation by the Treasury through government disbursements. Worn and mutilated coins are exchanged at face value, or the bullion or metal value, in accordance with regulations issued by the Treasury Department.

The gold certificates in use at the present time are not circulated. They are issued by the Treasurer of the United States only to Federal Reserve banks in exchange for equivalent credits established with the Treasurer in the Gold Certificate Fund of the Federal Reserve System.

Silver certificates and United States notes are delivered by the Bureau of Engraving and Printing to the Treasurer of the United States, as required, and he in turn supplies them to the Federal Reserve banks. The amounts supplied are charged in full face value to the Federal Reserve banks, and the sum is credited to the account of the Treasurer of the Untied States in the receiving bank.

Federal Reserve notes are issued somewhat differently from other paper currency. On application by a Federal Reserve agent or assistant agent, the Board of Governors of the Federal Reserve System requests the Comptroller of the Currency to supply the specified amount and denominations of Federal Reserve notes. The Comptroller of the Currency authorizes the Bureau of Engraving and Printing to deliver the notes to the Federal Reserve banks or Federal Reserve agents, in accordance with the specifications. Before the notes are issued to the Federal Reserve banks and branch banks, the Federal Reserve agent must receive from these banks collateral required by law, covering the full face value of the notes.

Fractional Currency

AFTER THE suspension of specie payments in 1862, subsidiary silver coins largely disappeared from circulation. For a time tickets, due bills, and other forms of private obligation, replaced the coins. They were issued by merchants, manufacturers and

business men to make change. To meet the shortage of coins of small denomination, Congress authorized first the use of postage stamps for change and later a modified form called postal currency. Finally, fractional paper currency in denominations corresponding to the subsidiary silver coins was issued. This money, popularly known as *shin plasters,* was printed in denominations of 3, 5, 10, 25 and 50 cents, and a small amount in the denomination of 15 cents. The last issue of fractional paper currency was in 1876. The total amount was $368,720,079.45, including reissues. Acts of 1875 and 1876 provided for the redemption of fractional paper currency in fractional silver coins, and it was gradually retired as it came into the Treasury. A comparatively small amount still outstanding is carried on Treasury books as part of the public outstanding debt, not bearing interest.

Superstitions About Money

PIECES OF imitation paper money are sometimes put in new purses as a testimonial to one of the numerous superstitions about money. Many of these superstitions are so old that their origin has been forgotten. It is supposed to bring good luck to have a piece of money in a new purse. Another token presumed to bring good luck is a coin bangle on a chain.

Some people carry a rabbit's foot in their pocket as insurance against an empty purse. Others carry a penny which is believed to ward off rheumatism. Another superstition is that a coin carried in the hatband will keep one's pocket full of money. A superstitious person turns his money over when he sees a new moon to increase the amount. Some people put a tub of water in the yard and drop a new penny in it just before midnight on New Year's Eve. This is presumed to bring good luck in money matters throughout the year. A coin picked up from the track of a mule is believed by some persons to be a very good omen. Money placed in the foundation of a building is said to bring good luck.

One of the most widely practiced superstitious rites is placing a piece of money in the heel of a bride's left shoe to insure wealth. Another superstition concerning money connected with marriage is the custom of giving the clergyman an odd sum for luck. Among so-called lucky pieces, a coin minted in the year of one's birth is regarded as especially potent, also a penny that one finds. In olden days, coins were placed on the eye lids of a dead person to pay his way across the River Styx. This custom has been discontinued but bridesmaids still search eagerly for the dime in a wedding cake to insure a marriage blessed with wealth.

Values of Rare Coins

COINS WHICH command high premiums are rare, and there is little chance that an individual will find one in circulation. However, occasionally a rare coin that has escaped the notice of collectors does turn up. To avoid disappointment, a person finding an old or unusual coin, should assume that it has no premium value until he has consulted coin catalogs or dealers.

A few of the regularly issued United States coins for which dealers and collectors are willing to pay substantial sums are:

1894 dime, S mint, $100 to $300 (only 24 were minted).
1804 silver dollar (Fillet head, large eagle), $1,000 to $2,500.
1870 three dollar gold piece, S mint, $500 to $1,000.
1815 half eagle ($5 gold piece), $500 to $1,500.
1822 half eagle, $2,500 to $6,500.

These prices are quoted from the catalog of a leading coin dealer and are the sums that he will pay. Collectors might pay higher premiums. The only existing specimen of the *1849 double eagle* is in the United States mint collection of coins. It is said that $35,000 was once offered for it.

Many collectors are interested in the *Liberty head* five cent coin of 1913. The *Buffalo nickel* was first issued in that year, and officially is the only United States coin of that denomination put in circulation in 1913. The Handbook of United States Coins, 1942, by E. S. Yeoman, Lee F. Hewitt, and Charles E. Green, contains the following statement about the 1913 *Liberty head* five cent piece:

> "The 1913 *Liberty head* nickel did not become known to the numismatic world until 1920 when six specimens were exhibited at a meeting of coin collectors in Chicago. No other specimens have been found and none of the original six have been sold at public sale. It is reported that all six of these coins were in the Colonel Green collection (the deceased son of the famous Hetty Green). Very clever false 1913's have been made by altering a 1910."

Money and the War

THE EFFECT of the Second World War on money is manifest today all over the world, because copper and nickel, both strategic metals, have been replaced by metals less necessary for munitions. Indications are that all nickel and copper coins in Europe have been withdrawn from circulation and melted to

make armaments. In Italy, a steel alloy has been substituted for pure nickel in coinage. To force people to surrender the nickel coins they were declared to have no value as money after December 31, 1941. Italy has also used postage stamps to compensate for a shortage of small coins, just as the United States did during the War Between the States.

In Germany, nickel coins are no longer legal tender. At first aluminum pieces were issued in their place, and later zinc coins in small denominations replaced copper, aluminum and bronze. Zinc has also been used in France; iron coins have been struck in Hungary; aluminum is the substitute metal in Spain and it has also been used in Japan and China.

In many countries, hoarding has reduced the stock of metallic money and small denominations of paper money have been issued in large quantities to take its place. Conditions in Malta became so critical on account of hoarding that only merchants were permitted to keep on hand more than two pounds sterling of silver currency and 10 shillings in copper. Ceylon issued bank notes of small denomination in booklets, perforated on one end to show where they have been torn off. A one rupee note was issued in Burma to replace hoarded silver, and paper money is being issued by bales in China. Germany has issued quantities of paper money which can be spent by German armed forces only in occupied countries.

In the United States, changes in the money in circulation reflect the urgent need of strategic metals. The nickel five cent coin has been replaced by one of the same size and design, but containing half silver and half copper. This substitution released large quantities of nickel for the war effort. The composition of the one cent piece also has been changed so that less tin is used in the alloy.